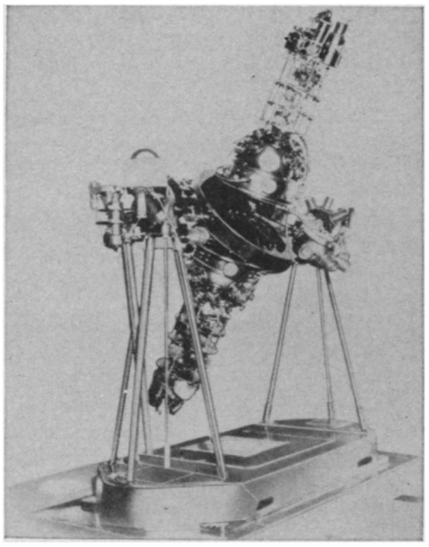
# new products

## Automatic planetarium



A fully automatic planetarium projector for fairly sizable installations is offered by Planetariums Unlimited, a division of Viewlex, Inc. Called Viewlex Model Venus, the projector is designed for installation in domes with diameters of 24 to 40 feet, dimensions that approximate a seating capacity of 60 to 200 persons.

According to the manufacturer the instrument projects up to 4,000 stars from the brightest down to magnitude 6.0, which is roughly the limit of naked-eye observation. Star projection is entirely optical and covers the entire celestial sphere. Color characteristics of certain stars are included, and there are optical projection systems for Mercury, Venus, Mars, Jupiter, Saturn, the sun and the moon. Diurnal, annual, precession and latitude changes are variable in speed and reversible.

The instrument comes with a remote-control console.

*Viewlex, Inc.*
*Holbrook, N.Y.*

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## Budget reactor

A small nuclear reactor called mini-TRIGA, which the manufacturer describes as a budget-priced model of the widely used TRIGA family of pool-type research reactors, is offered by Gulf Energy and Environmental Systems.

According to Gulf the new reactor can serve the requirements of educational, medical and industrial organizations that have severe budget limitations. Yet its performance is suitable for isotope production, neutron-activation analysis, neutron radiography, training and other research applications. The standard mini-TRIGA operates at steady-state power levels up to 100 kilowatts thermal, which provides a neutron flux of $3.5 \times 10^{12}$ neutrons per square centimeter per second at a specimen exposure thimble near the core.

Upgrading to higher power levels is possible.

Mini-TRIGA is designed as a below-ground reactor suitable for installation in existing buildings near offices, laboratories and classrooms. A typical mini-TRIGA would cost about $175,000 in the United States exclusive of building and pool.

*Gulf Corp.*
*San Diego, Calif.*

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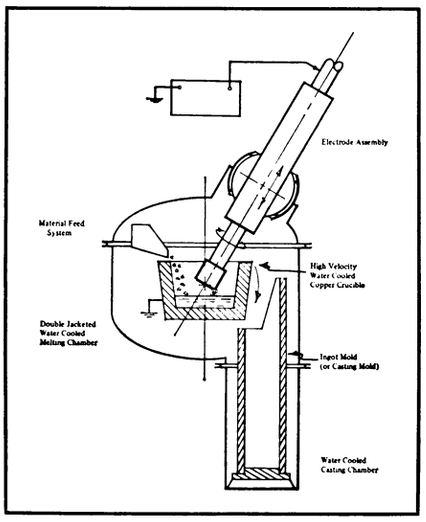
## Melting specialty metals




A new system for melting and casting reactive metals and specialty steels has been developed by Schlienger, Inc., of San Rafael, Calif., a subsidiary of the Corning Glass Works.

According to Schlienger, the new furnace, called Uni-Melt, provides advantages beyond the capability of vacuum arc, electroslag or vacuum induction furnaces. These include elimination of contamination from crucibles or electrodes, a nonconsumable electrode, flexibility in melting or refining times and in selection of raw materials and compatibility with established equipment and operations.

The furnace will take feeds ranging from sponge to heavy scrap pieces weighing a few pounds, and its product can be drawn off continuously. The system can be operated at pressures ranging from vacuums in the micron range to positive pressures and is therefore suitable for use with a wide range of alloys where lower pressure operation presents problems of preferential volatilization.

*Schlienger, Inc.*
*San Rafael, Calif.*

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## Dilatometer

A table-top high-temperature dilatometer, developed by Orton Ceramic Foundation, will determine dimensional changes in solids rapidly and accurately. Factory calibrated and fully automatic, the console unit permits measurement of reversible thermal expansion and size change due to sintering, melting, inversions or transitions. Controls assure variable heating or cooling rates and an adjustable shut-off level.

For measurements, the transducer, a linear variable transformer, is mounted on a precision ball-bearing slide. The spring-loaded coil moves in direct proportion to specimen expansion and the output is recorded on an Omnigraphic X-Y Plotter, Series 200. The furnace employs a silicon-carbide heating element, has a range to 1,500 degrees C., and temperature variation is less than 4 degrees over the sample length.

*Edward Orton Jr.*
*Ceramic Foundation*
*Columbus, Ohio*

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## Low-cost X-ray spectrometer

A dispersive X-ray spectrometer for nondestructive analysis of 80 elements ranging from aluminum to uranium has been made by Kevex Corp. of San Mateo, Calif.

The system, called the KEVEX-RAY 3000 Mark A, consists of a silicon or lithium detector with an area of 30 square millimeters and a cryostat. It will resolve spectral features 235 electron-volts apart at energies of 5.9 kilo-electron-volts and 275 electron-volts apart at 14 kilo-electron-volts.

The instrument is built to withstand a weekend at room temperature without degradation of its resolution in case someone forgets to fill the liquid-nitrogen dewar. It costs $2,222.

*Kevex Corp.*
*Burlingame, Calif.*

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